A.A.P.G. and How it Functions. By Robert H. Dott. Abstract	177
10-13, 1958	
	349
21.1 11.12	
Distinguished Lecture Frogram, 1957–1958 program ———————————————————————————————————	1913
	177
Distinguished Lecture Tour of McKee, Edwin D	583
	2400
Distinguished Lecture Tour of Stocking, Hobart E.	174
Division of Paleontology and Mineralogy. Recent Publications. 340, 773, 1646, 2147, 2	
	573
——. Field Trip, 1957	586
Financial Statement	573
Forty-Second Annual Business Meeting, St. Louis, April 4, 1957. Minutes. Theodore	0
	1318
Forty-Second Annual Meeting, St. Louis, April 1-4, 1957. The Convention. By Paul	,
	1316
	2767
Geologic Cross Sections Sponsored by Geological Societies Affiliated or Cooperating	
	1637
	1654
	1649
	1553
	1651
	Π , 3
——. List of Special Publications and Guidebooks Published in 1956 by Societies Affiliated	
	1639
Membership Applications Approved for Publication	
	2771
Membership Directory	II, I
	2154
Mid-Continent Regional Meeting, Tulsa, October 31-November 1	
	2596
, Officers-Elect	572
	350
- 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1656
	1333
Report of A.A.P.G. Directors of American Geological Institute. By John M. Hills	500
1 7001 ** 70	1337
	1360
Report of Commissioner on American Commission on Stratigraphic Nomenclature.	0
n , G C	1345
	1355
n'	1353
	1369
Report of Committee on Field-Trip Research and Coordination. By George H.	309
	1368
	1350
	1362
	1366
Report of Committee on Reprinting Back Issues of Bulletin. By Robert H. Bott Report of Committee on Special Volume on Pennsylvanian of United States. By Carl	1300
	6.
	1364
	1356
	1357
	1332
	1366
	1355
	1364
Report of National Responsibility Committee, By Douglas Ball	1362

	217
	134
	*34
Science. By Howard A. Meyerhoff and A. John Haworth	134
	134
	136
Report of Tectoric Man Committee Ry Coorge V. Cohee	132
	136
	134
Spears	134
Report of Volunteer Research Fund Campaign Committee. By G. M. Knebel	136
	185
	239
 Qualifications for Membership Rocky Mountain Section, Seventh Annual Meeting, Salt Lake City, Utah, February 	t 11,
25-27, 1957	16
Sidney Powers Memorial Medalist, Joseph Poyer Deyo Hull. By C. L. Moody	164
——. Tours of President Link	590
Abstracts. Pacific Section Annual Meeting, Los Angeles, November 8-9, 1956	350
Adams, John Emery, et al. Report of Committee on Special Volume on Pennsylvanian of United States	***
Adkins, Walter Scott. Memorial by Frank E. Lozo	1364 783
Adkison, W. L. Geological Note on Geologic Cross Sections Sponsored by Geological Societies	100
Affiliated or Cooperating with American Association of Petroleum Geologists during 1956.	1637
Africa, Petroleum Developments in 1956. By Hollis D. Hedberg	1540
Age of Citronelle Formation in Gulf Coastal Plain. Geological Note by V. T. Stringfield and	
P. E. LaMoreaux	742
Age of Galisteo Formation, Santa Fe County, New Mexico. Geological Note by Peter Robinson	757
Akers, W. H., and C. W. Drooger. Miogypsinids, Planktonic Foraminifera, and Gulf Coast	131
Oligocene-Miocene Correlations	656
Alaska, Developments in 1956. By R. L. Blocher	1311
Alaska Peninsula, Middle Permian Limestone on Pacific Side of. Geological Note by Bernold	,
M. Hanson	2376
Alberta, Geology of Pembina Field. By A. M. Patterson and A. A. Arneson ————, Reconnaissance of Subsurface Precambrian of, By R. A. Burwash	937
Alexandrov, Eugene A. Review of Companion of the Petroleum Geologist, by N. B. Vassoevich	10
(Editor)	151
Alkire, Robert L., and Bernard A. Floto. Oil and Gas Developments in Ohio in 1956	1021
Almgren, Alvin A., and William N. Schlax. Geological Note on Post-Eocene Age of "Markley	
Gorge" Fill, Sacramento Valley, California Post-Eocene Age for "Markley Gorge" Fill, Sacramento Valley, California. Abstract.	326
American Commission on Stratigraphic Nomenclature. Note 17—Suppression of Homony-	355
mous and Obsolete Stratigraphic Names. Edwin D. McKee, Chairman. Discussion.	1889
Note 18—Records of the Stratigraphic Commission for 1955-1956. Prepared by James	,
Gilluly	130
Note 19—Status of Soils in Stratigraphic Nomenclature. Prepared by Gerald M.	0
Richmond and John C. Frye.	758
 Report 5—Nature, Usage, and Nomenclature of Biostratigraphic Units Report 5—Nature, Usage, and Nomenclature of Biostratigraphic Units. Discussion. 	1877
By Curt Teichert	2574
Antilles, La Constitution Géologique et la Structure des, by Jacques Butterlin. Review by	-31+
H. G. Kugler	959
Appalachian Folding, Chronology of. By Herbert P. Woodward	2312
Appalachian Tectonism during Eocene, Basal Claiborne of Texas, Record of By Thomas	
W. Todd and Robert L. Folk Appalachians, Northeastern, Structural Elements of. By Herbert P. Woodward	2545 1429
Application of Moments to Vertical Variability Maps of Stratigraphic Units. By W. C.	-4-9
Krumbein and W. G. Libby	197
Ardmore Geological Society Field Conference, September 13-14	1385
Ardmore Geological Society. Guidebook, Criner Hills Field Conference, Lake Murray Area,	
Southern Oklahoma, 1957. Review by John L. Hoard and Wade M. McCharen	2755

INDEX OF VOLUME 41 (1957)	2785
Arizona and Western New Mexico, Developments in 1956. By R. M. Byington Arizona, Southeastern, Early Paleozoic Strata in. By R. C. Epis and C. M. Gilbert Southeastern, Upper Devonian Swisshelm Formation of By R. C. Epis, C. M.	1263
Gilbert, and R. L. Langenheim ————————————————————————————————————	2243
Arkansas and North Louisiana, Developments in 1956. By William H. Wise and Ernest H. Morrow	1201
Arkansas, Western, Subsurface Study of Morrow and Atoka Series in Part of Arkansas Valley of. By William Wayne Ballard	263
Arnal, Robert E., and Orville L. Bandy. Distribution of Recent Foraminifera off West Coast of Central America	2037
Arneson, A. A., and A. M. Patterson. Geology of Pembina Field, Alberta At Home and Abroad . 172, 366, 583, 704, 981, 1384, 1664, 1911, 2173, 2309, 2602 Atlantic Coastal States between New Jersey and South Carolina, Developments in 1956. By Horace G. Richards	
Automatic Dip-Component Computer for Use with Brunton Compass. Geological Note by Richard L. Threet	2752
	-13-
Baars, D. L., and R. L. Knight. New Developments on Age and Extent of Ouray Limestone Bachrach, Ruth. Review of Guidebook, Eleventh Annual Field Conference, Jackson Hole, 1956, by Wyoming Geological Association.	2275
Baker, Bruce L., and Gordon W. Hodgson. Vanadium, Nickel, and Porphyrins in Thermal Geochemistry of Petroleum	769
Ball, Douglas. Report of National Responsibility Committee.	1362
Ballard, William Wayne, Subsurface Study of Morrow and Atoka Series in Part of Arkansas Valley of Western Arkansas	263
Bandy, Orville L., and Robert E. Arnal. Distribution of Recent Foraminifera off West Coast of Central America	2037
Banks, Luis M., and Edgar S. Driver. Geologic History of Santa Ana Structure, Anaco Structural Trend, Anzoategui, Venezuela	308
Clays and Carbonate Rocks of the Russian Platform. Review by George V. Chilingar. Barkell, Clifford A., and George Herman. Pennsylvanian Stratigraphy and Productive Zones,	146
Paradox Salt Basin	861
Barlow, James A., Jr. Developments in Wyoming and Idaho in 1956 Barrett, Donald E. History of Exploration and Development of Willows-Beehive Bend Gas Field, Abstract	1231
Barrow, L. T. Memorial of Halbert Pleasant Bybee	350 2394
Basal Claiborne of Texas, Record of Appalachian Tectonism During Eocene. By Thomas W. Todd and Robert L. Folk	2545
Base-Level Control Patterns in Cyclothemic Sedimentation. By Harry E. Wheeler and Haydn	- 10
H. Murray Baum, R. B., et al. Velocity Logging and Its Geological and Geophysical Applications	1985 1667
Bayou Blue Salt Dome, Iberville Parish, Louisiana, Peripheral Faulting at. By William R.	ì
Mais.	1915
Beebe, B. W. Report of Distinguished Lecture Committee Bell, Alfred H., and Henry N. Toler. Report of Resolutions Committee	1357
Bell, Alfred H., and Virginia Kline. Developments in Illinois in 1956	1360
Bennett, R. F. From the Bottom Up	1048
Berry, E. Willard. Review of The Quaternary Era, by John Kaye Charlesworth	2143
Beu, R. D., and K. M. Waters. Developments in Louisiana Gulf Coast in 1956	1100
Bieber, Donald L. Report of Committee on Exploration Primer	1369
Billings Geological Society. Guidebook, Seventh Annual Field Conference, Central Montana, 1956. Review by Paul W. Richards	336
Bissell, Harold J., and George V. Chilingar. Mississippian Joana Limestone of Cordilleran	
Miogeosyncline and Use of Ca/Mg Ratio in Correlation	2257
Bisti Oil Field, San Juan County, New Mexico. By J. Q. Tomkins	906
Blocher, R. I. Development in Alaska in 1956	1748
Bloos, C. Maynard, and Margaret Fuller Boos. Tectonics of Eastern Flank and Foothills of Front Range, Colorado	2603
Boos, Margaret Fuller, and C. Maynard Boos. Tectonics of Eastern Flank and Foothills of	
Front Range, Colorado	2603

Bowling, Leslie. Memorial of Eugene Leonard Earl Brace, Orval L. E. Frank Schramm, Honorary Member Brainerd, A. E. Thomas Samuel Harrison, Honorary Member Branson, Carl C., John Emery Adams, and R. H. Dott. Report of Committee on Special	792 1654 1651
Volume on Pennsylvanian of United States Breccia and Small-Scale Lower Pennsylvanian Overthrusting in Southern Illinois. By Paul Edwin Potter	1364 2695
Breck, H. R., S. W. Schoellhorn, and R. B. Baum. Velocity Logging and Its Geological and Geophysical Applications	1667
Brittain, W. D., and J. D. McAlary. Developments in Eastern Canada in 1956 Burgner Formation, Pre-Desmoinesian Pennsylvanian Deposit in Southwestern Missouri.	1303
Geological Note by Walter V. Searight and Ernest J. Palmer Burwash, R. A. Reconnaissance of Subsurface Precambrian of Alberta Butterlin, Jacques. La Constitution Géologique et la Structure des Antilles. Rev.ew by H. G. Kugler	2127 70 959
Bybee, Halbert Pleasant, Honorary Member. By Ed. W. Owen ——, Memorial by L. T. Barrow Byington, R. M. Developments in Arizona and Western New Mexico in 1056	1649 2394 1263
	1203
Cailleux, André, and André Chavan. Détermination Pratique des Fossiles. Review by Norman D. Newell	2585
California, Franciscan Group in Coast Ranges and Its Equivalents in Sacramento Valley. By William P. Irwin Paleontology and Stratigraphy of Some Marine Pleistocene Deposits in Northwest	2284
Los Angeles Basin. By Peter U. Rodda. ——, Post-Eocene Age of "Markley Gorge" Fill, Sacramento Valley. Geological Note by	2475
A. A. Almgren and W. N. Schlax	326
Cambrian Rocks of Southern Snake Range, Nevada. By Harold Drewes and A. R. Palmer. Campbell, Graham S., and Quey Hebrew. Oil and Gas Developments in Utah and Nevada in 1056.	104
Canada, Eastern, Developments in 1956. By W. D. Brittain and J. D. McAlary	1303
Canada, Western, Developments in 1956. By John A. Downing and S. F. Tuddenham. Carboniferous Sediments, Environmental Studies of. Part I: Geochemical Criteria for Differentiating Marine from Fresh-Water Shales. By E. T. Degens, E. G. Williams, and M. L.	1290
Keith Carlisle, Donald, M. A. Murphy, C. A. Nelson, and E. L. Winterer. Devonian Stratigraphy of Sulphur Springs and Pinyon Ranges, Nevada	2427
Carpenter, E. Gail. Introduction to Geology	361
Report of Committee on Applications of Geology	1353
Carpenter, G. L. Developments in Indiana in 1956 Cecioni, Giovanni O. Cretaceous Flysch and Molasse in Departamento Ultima Esperanza, Magallanes Province, Chile	538
Cecioni, Giovanni O., and John E. Sanders. Discussion on Flysch and Molasse	2136
Central America, Distribution of Recent Foraminifera off West Coast of. By Orville L. Bandy and Robert E. Arnal	2025
Charlesworth, John Kaye, The Quaternary Era, Review by E. Willard Berry	2037
Chavan, André, and André Cailleux. Détermination Pratique des Fossiles. Review by Norman D. Newell	2585
Chile, Cretaceous Flysch and Molasse in Departamento Ultima Esperanza, Magallanes Province. By Giovanni O. Cecioni	538
Chilingar, George V. Review of Geochemistry of Thorium and Uranium in Clays and Carbonate Rocks of the Russian Platform, by V. I. Baranov, A. B. Ponov, and K. G. Kunashova	146
Chilingar, George V., and Harold J. Bissell. Mississippian Joana Limestone of Cordilleran	-40
Miogeosyncline and Use of Ca/Mg Ratio in Correlation	2257
Civil Service Commission, Results of 1957 Nationwide Geology Examination Offered by	2312
United States. Geological Note by R. E. Van Alstine	2102
Clark, David L. Marine Triassic Stratigraphy in Eastern Great Basin Clark, E. W. Petroleum Developments in South America and Caribbean Area in 1956	1454
Clark, Frank Rinker. Report of Headquarters Advisory Committee	1364
Clastic Reservoirs on Precambrian Surface in North America. By J. C. Sproule	848
Clewell, D. H., et al. Report of Trustees of Research Fund	1346
Cloos, Ernst. Geological Note on Cost of Educating One Geologist	2364

INDEX OF VOLUME 41 (1957)	2787
Cockerham, K. L., Jr. Developments in Upper Gulf Coast of Texas in 1956	1181
Cohee, George V. Report of Tectonic Map Committee	1365
College Students Majoring in Geology, Survey of. By A. I. Levorsen	968
Colorado and Western Nebraska, Developments in 1956. By L. D. Hunter and G. H. Hamilton	1251
Colorado, Contact of Burro Canyon Formation with Dakota Sandstone, Slick Rock District,	1231
and Correlation of Burro Canyon Formation. By George C. Simmons	2519
, Guidebook to the Geology of the Raton Basin, 1956, by Rocky Mountain Association	
of Geologists. Review by Thomas C. H'estand	148
——, Northwest, Possibilities of Weber Stratigraphic Traps, Rangely Area. By Floyd H.	
Hoffman	894
, Southwestern, Ignacio Quartzite of. By F. H. T. Rhodes and James H. Fisher	2508
, Tectonics of Eastern Flank and Foothills of Front Range. By C. Maynard Boos and	
Margaret Fuller Boos	2603
, West-Central, Jurassic Stratigraphy in Elk Mountains. Geological Note by R. L.	
Langenheim, Jr.	2576
Companion of the Petroleum Geologist, by N. B. Vassoevich (Editor). Review by Eugene A.	-31
Alexandrov	151
Contact of Burro Canyon Formation with Dakota Sandstone, Slick Rock District, Colorado,	-3-
and Correlation of Burro Canyon Formation. By George C. Simmons	2510
Corals and Larger Foraminifera at Anse la Butte Reef, Louisiana. Geological Note by Donald	2519
E Squiss and V Norman Sash	- 16
F. Squires and K. Norman Sachs	746
Cordilleran Miogeosyncline and Use of Ca/Mg Ratio in Correlation, Mississippian Joana Lime-	
stone of. By George V. Chilingar and Harold J. Bissell	2257
Cost of Educating One Geologist. Geological Note by Ernst Cloos	2364
Cottonwood Creek Field, Washakie County, Wyoming, Carbonate Stratigraphic Trap. By	
John J. Pedry	823
Cox, A. B., Jr., and E. P. Ogier. Memorial of Paul Bartlett Fahle	363
Cox, William Edgerton. Memorial by W. E. Dougherty	2600
Cram, Ira H. Some Offshore Exploratory Problems	1422
Cretaceous Flysch and Molasse in Departamento Ultima Esperanza, Magallanes Province,	
Chile. By Giovanni O. Cecioni	538
Culbertson, Tom, et al. Developments in West Texas and Southeastern New Mexico in 1956	1117
Curray, Joseph R., and Robert R. Lankford. Geological Note on Mid-Tertiary Rock Outcrop	
on Continental Shelf, Northwest Gulf of Mexico	2113
Curtis, Bruce F., Robert K. Kirkbride, William S. McCabe, M. Dane Picard, and Frank I.	
Pritchett, Jr. Nature of Rocky Mountain Stratigraphic Fields	813
Curtis, G. H., et al. Geological Note on Potassium-Argon Dating of Igneous Rocks	2120
Curtis, G. 11., & w. Octological Note on Potassidili Angoli Dating of Agricous Notes	2120
Dane, C. H., A. A. Wanek, and J. B. Reeside, Jr. Reinterpretation of Section of Cretaceous	
Rocks in Alamosa Creek Valley Area, Catron and Socorro Counties, New Mexico	181
Daniel, Guy S. Geological Note on Petroleum Industry Looks at Geology Curriculum	2368
Daniels, Farrington, et al. Factors in Age Determination of Carbonate Sediments by Thermo-	200
luminescence	121
Deep Drilling through Cumberland Overthrust Block in Southwestern Virginia. By David	
M. Young	2567
Degens, E. T., E. G. Williams, and M. L. Keith. Environmental Studies of Carboniferous	
Sediments. Part I: Geochemical Criteria for Differentiating Marine from Fresh-Water	
Shales	2427
DeGolyer, Everette Lee, Memorial of. By Lewis W. MacNaughton	969
Denison, A. Rodger. Report of Trustee, Employees' Pension Trust Plan	1345
Denver Basin, Stratigraphic Traps in. By Harrison F. Murray	839
Détermination Pratique des Fossiles, by André Chavan and André Cailleux. Review by	
Norman D. Newell	2585
Development of Fracture Analysis as Exploration Method. By P. H. Blanchet	1748
Developments in Africa in 1956, Petroleum. By Hollis D. Hedberg	1540
in Alaska in 1956. By R. L. Blocher	1311
in Arizona and Western New Mexico in 1956. By R. M. Byington	1263
—— in Arkansas and North Louisiana in 1956. By William H. Wise and Ernest H. Morrow	1201
in Atlantic Coastal States between New Jersey and South Carolina in 1956. By	1201
Horace G, Richards	1221
in Colorado and Western Nebraska in 1956. By L. D. Hunter and G. H. Hamilton	1251
in East Texas in 1956. By D. W. Love, R. A. Kirkland, and W. E. Richey	1171
in Eastern Canada in 1956. By W. D. Brittain and J. D. McAlary	1303
— in Europe in 1956, Petroleum. By Robert E. King	1502

in Far East in 1956, Petroleum. By Godfrey F. Kaufmann	1616
in Illinois in 1956. By Alfred H. Bell and Virginia Kline	1048
in Indiana in 1956. By G. L. Carpenter.	1057
in Kentucky in 1956, Oil and Gas. By Frank H. Walker, Daniel J. Jones, and Edward	5.
O. Ray	1037
in Louisiana Gulf Coast in 1956. By K. M. Waters and R. D. Beu	1100
— in Mexico in 1956, Petroleum. By Eduardo J. Guzmán and Federico Mina U.	1441
in Michigan in 1956. By R. E. Ives and G. D. Ells	1062
- in Middle East and Adjacent Countries in 1956, Petroleum. By Henry Hotchkiss	1591
- in Montana, North Dakota, and South Dakota in 1956. By Steven H. Harris and Her-	
bert D. Hadley	1222
in New York in 1956. By W. Lynn Kreidler	1006
in North Mid-Continent in 1956. By George Q. Williams	1074
in North Texas in 1956. By R. D. Miller	1135
in Ohio in 1956, Oil and Gas. By Robert L. Alkire and Bernard A. Floto	1021
in Oklahoma in 1956. By Norman S. Morrisey and Milan D. Maravich	1089
in Pennsylvania in 1956. By William S. Lytle	1010
in South America and Caribbean Area in 1956, Petroleum. By E. W. Clark	1454
in Southeastern States in 1956. By E. R. Hines, Jr., and G. T. Thomas	1210
in South Texas in 1956. By William G. Pittman et al.	1156
in Tennessee in 1956, Oil and Gas. By H. C. Milhous	1046
in Texas and Oklahoma Panhandles in 1956. By Garland E. Wheeler and Guy W.	
Smith	1108
in Upper Gulf Coast of Texas in 1956. By K. L. Cockerham, Jr.	1181
in Utah and Nevada in 1956, Oil and Gas. By Graham S. Campbell and Quey Hebrew.	1242
in West-Central Texas in 1956. By Fred R. Haeberle	1144
in West Coast Area in 1956. By H. L. Popenoe	1272
in Western Canada in 1956. By John A. Downing and S. F. Tuddenham	1290
in West Texas and Southeastern New Mexico in 1956. By Tom Culbertson et al	1117
in West Virginia in 1956, Oil and Gas. By R. C. Tucker	1032
—— in Wyoming and Idaho in 1956. By James A. Barlow, Jr.	1231
Devonian Section at Bowmanstown, Pennsylvania. By Bradford Willard	2298
Devonian Stratigraphy of Sulphur Springs and Pinyon Ranges, Nevada. By Donald Carlisle, M. A. Murphy, C. A. Nelson, and E. L. Winterer	2177
Dickey, Parke A., and Robert C. Morris. Modern Evaporite Deposition in Peru	2175
Discovery Challenge of the Rockies. By A. I. Levorsen	800
Distribution of Recent Foraminifera off West Coast of Central America. By Orville L. Bandy	800
and Robert E. Arnal	2037
Dott, Robert H. A.A.P.G. and How It Functions. Abstract	177
Distinguished Lecture Tour of	177
Report of Committee on Reprinting Back Issues of Bulletin	1366
, et al. Report of Committee on Special Volume on Pennsylvanian of United States	1364
Dougherty, W. E. Memorial of Charles Albert Durham	789
. Memorial of William Edgerton Cox	2600
Downing, John A., and S. F. Tuddenham. Developments in Western Canada in 1956	1200
Doyle, C. L. Santa Fe Pool Development, Santa Fe Springs Oil Field, California. Abstract	352
Drewes, Harald, and A. R. Palmer. Cambrian Rocks of Southern Snake Range, Nevada	104
Driver, Edgar S., and Luis M. Banks. Geologic History of Santa Ana Structure, Anaco	
Structural Trend, Anzoategui, Venezuela	308
Drooger, C. W., and W. H. Akers. Miogypsinids, Planktonic Foraminifera, and Gulf Coast	
Oligocene-Miocene Correlations	656
Dunning, H. N., and J. W. Moore. Porphyrin Research and Origin of Petroleum	2403
Durham, Charles Albert. Memorial by W. E. Dougherty	789
Dust-Storm Sediments of Lubbock Area, Texas. By Kerby E. Laprade	700
	7
Earl, Eugene Leonard. Memorial by Leslie Bowling	792
Early Paleozoic Strata in Southeastern Arizona. By R. C. Epis and C. M. Gilbert	2223
Ecology of Recent Foraminifera in Northern Florida Keys. By Wayne E. Moore	727
Economics of Exploration, By Graham B, Moody, Abstract	
	358
Effect of Overburden and Reservoir Pressure on Electric Logging Formation Factor. By I. Fatt	2106
	2456
Elder, S. Discussion of Sediments and Water of Persian Gulf	332

INDEX OF VOLUME 41 (1957)	2780
Electric Logging Formation Factor, Effect of Overburden and Reservoir Pressure on. By I.	
Fatt Ells, G. D., and R. E. Ives. Developments in Michigan in 1956 England, Northern, Lower Carboniferous Reefs of. By Donald Parkinson Environmental Studies of Carboniferous Sediments. Part 1: Geochemical Criteria for Differentiating Marine From Fresh-Water Shales. By E. T. Degens, E. G. Williams, and	2450 106 51
M. L. Keith	242
M. L. Keith Epis, R. C., and C. M. Gilbert. Early Paleozoic Strata in Southeastern Arizona Epis, R. C., C. M. Gilbert, and R. L. Langenheim. Upper Devonian Swisshelm Formation of	222
Southeastern Arizona	224.
Europe, Petroleum Developments in 1956. By Robert E. King Evernden, J. F., G. H. Curtis, and J. Lipson. Geological Note on Potassium-Argon Dating	150
of Igneous Rocks Experimental Deformation of Sedimentary Rocks under Confining Pressure: Tests at Room Temperature on Dry Samples. By John Handin and Rex V. Hager, Jr.	2120
Exploratory Drilling in 1956. By Graham B. Moody	989
Explore or Liquidate. By Ed J. Hamner. Abstract	358
Factors in Age Determination of Carbonate Sediments by Thermoluminescence. By Edward J. Zeller, John L. Wray, and Farrington Daniels	121
Factors Relating to Fault Seals in Some California Oil Fields. By Albert F. Woodward. Abstract	361
Fahle, Paul Bartlett. Memorial by E. P. Ogier and A. B. Cox, Jr.	363
Fairbridge, Rhodes W. Review of Sedimentary Rocks by F. J. Pettijohn	2754
Far East, Petroleum Developments in 1956. By Godfrey F. Kaufmann	1616
Fatt, I. Effect of Overburden and Reservoir Pressure on Electric Logging Formation Factor	2456
Feely, Herbert W., and J. Laurence Kulp. Origin of Gulf Coast Salt-Dome Sulphur Deposits Fentress, George H. List of Forthcoming Field Trips in United States and Canada	981
Report of Committee on Field-Trip Research and Coordination	1368
Field Trips in United States and Canada, List of Forthcoming. By George H. Fentress	981
Fisher, James H., and F. H. T. Rhodes. Ignacio Quartzite of Southwestern Colorado	2508
Fitzgerald, Paul E. Forty-Second Annual Meeting, St. Louis, April 1-4, 1957. The Convention	1316
Florida Keys, Northern, Ecology of Recent Foraminifera in. By Wayne E. Moore	727
Floto, Bernard A., and Robert L. Alkire. Oil and Gas Developments in Ohio in 1956.	1021
Flysch and Molasse. Discussion by John E. S. nders and G. O. Cecioni Folk, Robert L., and Thomas W. Todd. Basal Claiborne of Texas, Record of Appalachian Tec-	2136
tonism during Eocene Forgotson, James Morris, Jr. Geological Note on Nature, Usage, and Definition of Marker-	2545
Defined Vertically Segregated Rock Units	2108
Stratigraphy of Comanchean Cretaceous Trinity Group	2328
Fracture Analysis as Exploration Method, Development of. By P. H. Blanchet	1748
Francis, David R. Jurassic Stratigraphy of Williston Basin Area	367
Franciscan Group in Coast Ranges and Its Equivalents in Sacramento Valley, California. By William P. Irwin	2284
From the Bottom Un Ry R F Rennett	1400
Frye, John C., and Gerald M. Richmond. Note 19—Status of Soils in Stratigraphic Nomen- clature. American Commission on Stratigraphic Nomenclature.	758
Genesis of "Haymond Boulder Beds," Marathon Basin, West Texas. Geological Note by	
W. E. Hall	1633

Geochemistry and Thorium and Uranium in Clays and Carbonate Rocks of the Russian Platform, by V. I. Baranov, A. B. Ronov, and K. G. Kunashova. Review by George V.

Geologic Cross Sections Sponsored by Geological Societies Affiliated or Cooperating with American Association of Petroleum Geologists during 1956. Geological Note by W. L.

Geologic History of Santa Ana Structure, Anaco Structural Trend, Anzoategui, Venezuela. By Luis M. Banks and Edgar S. Driver Geologist's Long-Term Forecast of Petroleum Supply and Demand. By Wallace E. Pratt.

Geology of Deadman Butte Area, Natrona County, Wyoming. By Thomas C. Woodward .

Chilingar

146

1637

308

 of Pembina Field, Alberta. By A. M. Patterson and A. A. Arneson of San Nicolas Island, Ventura County, California. By J. G. Vedder. Abstract Geophysical Case Histories, Vol. II, by Society of Exploration Geophysicists. Review by L. L. 	937 354
Nettleton	335
Gilbert, C. M., and R. C. Epis. Early Paleozoic Strata in Southeastern Arizona	2223
Gilbert, C. M., et al. Upper Devonian Swisshelm Formation of Southeastern Arizona	2243
Gilliland, William N. Geological Note on List of Special Publications and Guidebooks Published in 1956 by Societies Affiliated or Cooperating with American Association of Petrole-	
um Geologists	1639
Gilluly, James. Note 18—Records of the Stratigraphic Commission for 1955-1956. American	
Commission on Stratigraphic Nomenclature	130
Glover, Lynn. Geological Note on Occurrence of Free Oil in Limestone Concretions in Puerto	
Rico	565
Gouin, Frank. Report of Boy Scout Committee	1360
Great Basin, Eastern, Marine Triassic Stratigraphy in. By David L. Clark	2192
Green, Darsie A. Trenton Structure in Ohio, Indiana, and Northern Illinois	627
Green, Darsie A., and J. Marvin Weller. Discussion on Trenton Structure in Ohio, Indiana,	
and Northern Illinois	2132
Green Shale Facies, Lower Green River Formation, Utah. Geological Note by M. Dane	
Picard	2373
Gribi, Edward A., Jr. Santa Cruz Basin Oil Province. Abstract	355
Gries, J. P. Review of Symposium Volume, First International Williston Basin Symposium,	
by North Dakota Geological Society and Saskatchewan Geological Society	2144
Guidebook, Criner Hills Field Conference, Lake Murray Area, Southern Oklahoma, 1957, by	
Ardmore Geological Society. Review by John L. Hoard and Wade M. McCharen	2755
, Eleventh Annual Field Conference, Jackson Hole, 1956, by Wyoming Geological	
Association. Review by Ruth Bachrach	769
, Seventh Annual Field Conference, Central Montana, 1956, by Billings Geological	
Society. Review by Paul W. Richards	336
Guidebook to the Geology of the Raton Basin, Colorado, 1956, by Rocky Mountain Associa-	00
tion of Geologists. Review by Thomas C. Hiestand	148
to the Geology of the Uinta Basin, 1957, by Intermountain Association of Petroleum	
Geologists. Review by Martin Van Couvering	2379
Gulf Coast Oligocene-Miocene Correlations, Miogypsinids, and Planktonic Foraminifera. By	-312
W. H. Akers and C. W. Drooger	656
Gulf Coast Salt-Dome Sulphur Deposits, Origin of. By Herbert W. Feely and J. Laurence	-3-
Kulp	1802
Gulf Coastal Plain, Age of Citronelle Formation in. Geological Note by V. T. Stringfield and	
P. E. LaMoreaux	742
Gulf of Mexico, Northeastern, Shelf-Edge, Calcareous Prominences in. By John Ludwick	14-
and William R. Walton	2054
, Northwest, Mid-Tertiary Rock Outcrop on Continental Shelf. Geological Note by	34
Robert R. Lankford and Joseph R. Curray	2113
Gutschick, R. C., and T. G. Perry. Geological Note on Measured Sections of Sappington	3
(Kinderhookian) Sandstone in Southwestern Montana	1892
Guzmán, Eduardo J., and Federico Mina U. Petroleum Developments in Mexico in 1956	1441
2,	.44-
Hadley, Herbert D., and Steven H. Harris. Developments in Montana, North Dakota, and	
South Dakota in 1956	1222
Haeberle, Fred R. Developments in West-Central Texas in 1956	1144
Hager, Dorsey. Geological Note on Structural Control of Landforms, Bryce Canyon National	
Park, Utah	2118
Hager, Rex V., Jr., and John Handin. Experimental Deformation of Sedimentary Rocks under	2110
Confining Pressure: Tests at Room Temperature on Dry Samples	1
Hall, W. E. Geological Note on Genesis of "Haymond Boulder Beds," Marathon Basin, West	
Texas	1633
Hamilton, G. H., and L. D. Hunter. Developments in Colorado and Western Nebraska in 1956	1251
Hamner, Ed J. Explore or Liquidate. Abstract	358
Hancock, Ray A. Memorial of Morton Thomas Higgs.	166
Handin, John, and Rex V. Hager, Jr. Experimental Deformation of Sedimentary Rocks under	
Confining Pressure; Tests at Room Temperature on Dry Samples	1
Hanna, Marcus A. Report of Representative on Division of Earth Sciences, National Research	
Council	1240
	1340

2791

2379 356

Hanson, Bernold M. Geological Note on Middle Permian Limestone on Pacific Side of Alaska 2376 Harbaugh, John W. Mississippian Bioherms in Northeast Oklahoma 2530 Harris, N., J. W. Pallister, and J. M. Brown. Oil in Uganda. Review by C. L. Moody Harris, Steven H., and Herbert D. Hadley. Developments in Montana, North Dakota, and 567 South Dakota in 1956. 1222 Harrison, Thomas Samuel, Honorary Member. By A. E. Brainerd 1651 Haworth, A. John, and Howard A. Meyerhoff. Report of Representatives on Council of Association for Advancement of Science Hayes, Philip T. Geological Note on Possible Igneous Origin of Turkey Mountain Dome, Mora County, New Mexico 953 "Haymond Boulder Beds," Genesis of, Marathon Basin, West Texas. Geological Note by W. E. Hall . 1633 Heart Mountain and South Fork Detachment Thrusts of Wyoming, By William G. Pierce 591 Hebrew, Quey, and Graham S. Campbell. Oil and Gas Developments in Utah and Nevada in 1242 Hedberg, Hollis D. Petroleum Developments in Africa in 1956 1540 Hedgpeth, Joel W. Robert H. Parker, Recipient of President's Award Heiland, Carl August. Memorial by F. M. Van Tuyl and John C. Hollister 1656 165 Herman, George, and Clifford A. Barkell. Pennsylvanian Stratigraphy and Productive Zones, Paradox Salt Basin 861 Hiestand, Thomas C. Review of Guidebook to the Geology of the Raton Basin, Colorado, 1956, by Rocky Mountain Association of Geologists Higgs, Morton Thomas. Memorial by Ray A. Hancock 166 Hills, John M., and Elliott J. Powers. Report of A.A.P.G. Directors of American Geological 1337 Hines, E. R., Jr., and G. T. Thomas. Developments in Southeastern States in 1956 Hinyard, Paul B. Memorial of Robert Scott Mann 1210 364 History of Exploration and Development of Willows-Beehive Bend Gas Field. By Donald E. Barrett. Abstract 350 Hoard, John L., and Wade M. McCharen. Review of Guidebook, Criner Hills Field Conference, Lake Murray Area, Southern Oklahoma, 1957, by Ardmore Geological Society 2755 Hobson, John P. Lower Ordovician (Beekmantown) Succession in Berks County, Pennsylvania 2710 Hodgson, Gordon W., and Bruce L. Baker. Vanadium, Nickel, and Porphyrins in Thermal Gerchemistry of Petroleum 2413 Hoffman, Floyd H. Possibilities of Weber Stratigraphic Traps, Rangely Area, Northwest Colorado 894 Hollister, John C., and F. M. Van Tuyl. Memorial of Carl August Heiland 165 Hoover, Herbert, Jr. Petroleum and Our National Security Hotchkiss, Henry. Petroleum Developments in Middle East and Adjacent Countries in 1956 1416 1501 Houston Geological Society Student Awards 1664 Howell, Jesse V, Honorary Member. By A. I. Levorsen 1653 Hubbert, M. King. Discussion on Tilted Fluid Contacts in Mid-Continent Region .957 Hull, Joseph Poyer Deyo, Sidney Powers Memorial Medalist. By C. L. Moody 1647 Hull, Joseph P. D., Jr. Petrogenesis of Permian Delaware Mountain Sandstone, Texas and New Mexico 278 Hunter, L. D., and G. H. Hamilton. Developments in Colorado and Western Nebraska in 1956 1251 Hydrocarbon Fluid Inclusions in Quartz. Geological Note by Raymond C. Murray . . . 950 Hydrodynamics-Practical Exploration Tool. By Jack W. Knight. Abstract . . . 353 Ignacio Quartzite of Southwestern Colorado. By F. H. T. Rhodes and James H. Fisher 2508 Illinois, Developments in 1956. By Alfred H. Bell and Virginia Kline 1048 Northern, Ohio, and Indiana, Trenton Structure in. Discussion by J. Marvin Weller and Darsie A. Green 2132 Southern, Breccia and Small-Scale Lower Pennsylvanian Overthrusting in. By Paul 2695 Edwin Potter Implications of Gentle Ordovician Folding in Western Virginia. By W. D. Lowry. Indiana, Developments in 1956. By G. L. Carpenter 1057 Indiana, Ohio, and Northern Illinois, Trenton Structure in. Discussion by J. Marvin Weller and Darsie A. Green 2132 Intermountain Association of Petroleum Geologists. Guidebook to the Geology of the Uinta

Interpretation of Ouachita Mountains of Oklahoma as Autochthonous Folded Belt: Preliminary Report. Geological Note by Peter Misch and Keith F. Oles Introduction to Geology. By E. Gail Carpenter Irwin, William P. Franciscan Group in Coast Ranges and Its Equivalents in Sacramento Valley, California	1899 361 2284
Ives, R. E., and G. D. Ells. Developments in Michigan in 1956	1062
Jackson Hole, Guidebook, Eleventh Annual Field Conference, 1956, by Wyoming Geological Association. Review by Ruth Bachrach Jahns, Richard H., and Lauren A. Wright. Tabular Masses of Disordered Breccias in Southern	769
California. Abstract	355
Jenks, William F. Memorial of John Lyon Rich	167
Jobs and Geologists. By J. P. Rockfellow. Abstract Jodry, Richard L. Reflection of Possible Deep Structures by Traverse Group Facies Changes	357
in Western Michigan	2677
Jones, Daniel J., et al. Oil and Gas Developments in Kentucky in 1956	1037
Jurassic Stratigraphy in Elk Mountains, West-Central Colorado. Geological Note by R. L.	
Langenheim, Jr.	2576
Jurassic Stratigraphy of Williston Basin Area. By David R. Francis	367
Kansas, Paleoecology of Nodulose Zone at Top of Haskell Limestone (Upper Pennsylvanian)	
in. By Halsey W. Miller and Ada Swineford	2012
Kaplan, Joseph. International Geophysical Year. Abstract	356
Kaufmann, Godfrey F. Petroleum Developments in Far East in 1956	1616
Keith, M. L., et al. Environmental Studies of Carboniferous Sediments. Part I: Geochemical	
Criteria for Differentiating Marine from Fresh-Water Shales	2427
Kentucky, Oil and Gas Developments in 1956. By Frank H. Walker, Daniel J. Jones, and	
Edward O. Ray	1037
King, Vernon L. Memorial of Rowland Gardiner Whealton	1502 1662
Kirkbride, Robert K., et al. Nature of Rocky Mountain Stratigraphic Fields	813
Kirkland, R. A., et al. Developments in East Texas in 1956	1171
Kirschner, C. E. Reconnaissance Observations on Geology of Trinity Islands. Abstract	354
Kline, Virginia, and Alfred H. Bell. Developments in Illinois in 1956	1048
Knebel, G. M. Report of Volunteer Research Fund Campaign Committee	1367
Knight, Jack W. Hydrodynamics—Practical Exploration Tool. Abstract	353
Knight, R. L., and D. L. Baars. New Developments on Age and Extent of Ouray Limestone	2275
Kotick, Ottmar F. Military Petroleum. Abstract	359
Krumbein, W. C. Report of Editor	1332
Krumbein, W. C., and W. G. Libby. Application of Moments to Vertical Variability Maps of	-33-
Stratigraphic Units	197
Kugler, H. G. Review of La Constitution Géologique et la Structure des Antilles, by Jacques	
Butterlin	959
Kulp, J. Laurence, and Herbert W. Feely. Origin of Gulf Coast Salt-Dome Sulphur Deposits	1802
La Constitution Géologique et la Structure des Antilles, by Jacques Butterlin. Review by	
H. G. Kugler	959
LaMoreaux, P. E., and V. T. Stringfield. Geological Note on Age of Citronelle Formation in Gulf Coastal Plain.	742
Langenheim, R. L., Jr. Geological Note on Jurassic Stratigraphy in Elk Mountains, West Central Colorado	2576
Langenheim, R. L., et al. Upper Devonian Swisshelm Formation of Southeastern Arizona .	2243
Lankford, Robert R., and Joseph R. Curray. Geological Note on Mid-Tertiary Rock Outcrop	
on Continental Shelf, Northwest Gulf of Mexico	2113
Laprade, Kerby E. Dust-Storm Sediments of Lubbock Area	700
Late Cretaceous Cyclic Deposits, Book Cliffs, Eastern Utah. By Robert G. Young Law, J. Reasons for Persian Gulf Oil Abundance	1760
Levorsen, A. I. Discovery Challenge of the Rockies	800
Jesse V Howell, Honorary Member	1653
Survey of College Students Majoring in Geology	968
Libby, W. G., and W. C. Krumbein. Application of Moments to Vertical Variability Maps of	
Stratigraphic Units	1319
Link, Theodore A. Report of President	197

INDEA OF VOLUME 41 (1957)	2793
— . Tours of A.A.P.G. President	590
Whence Came the Hydrocarbons?	1387
Lipson, Joseph, Jack Evernden, and Garniss Curtis. Potassium-Argon Dating of Sedimentary	
and Igneous Rocks. Abstract	353
Lipson, J., et al. Geological Note on Potassium-Argon Dating of Igneous Rocks	2120
List of Forthcoming Field Trips in United States and Canada. By George H. Fentress List of Special Publications and Guidebooks Published in 1956 by Societies Affiliated or Co-	981
operating with American Association of Petroleum Geologists. Geological Note by	
William N. Gilliland	1639
Lithofacies Map of Upper Devonian in Eastern United States. Geological Note by Robert G.	
Sutton Lithologic Versus Stratigraphic Concepts. Discussion by J. R. Patterson and T. P. Storey	750
Lochman-Balk, Christina. Geological Note on Snowy Range Formation (Upper Cambrian)	2139
of Montana. Lokman, Kemal. Memorial of Djavad Eyoub Tashman	2582
Louisiana, Corals and Larger Foraminifera at Anse la Butte Reef. Geological Note by Donald	170
F. Squires and K. Norman Sachs	746
Louisiana Gulf Coast, Developments in 1956. By K. M. Waters and R. D. Beu	1190
Louisiana, Peripheral Faulting at Bayou Blue Salt Dome, Iberville Par'sh. By William R. Mais.	1915
Love, D. W., R. A. Kirkland, and W. E. Richey. Developments in East Texas in 1956.	1171
Lower Carboniferous Reefs of Northern England. By Donald Parkinson	511
Lower Cretaceous Barranquín Formation of Northern Venezuela. By Erimar von der Osten	679
Lower Ordovician (Beekmantown) Succession in Berks County, Pennsylvania. By John P.	
Hobson	2710
Lowry, W. D. Implications of Gentle Ordovician Folding in Western Virginia	643
Lozo, Frank E. Memorial of Walter Scott Adkins	783
Ludwick, John C., and William R. Walton. Shelf-Edge, Calcareous Prominences in North-	2775
eastern Gulf of Mexico	2054
Lytle, William S. Developments in Pennsylvania in 1956	1010
MacNaughton, Lewis N. Memorial of Everette Lee DeGolyer	969
Maher, John C. Report of Committee on Geologic Names and Correlations	1350
Lithologic Descriptions	2103
Mais, William R. Peripheral Faulting at Bayou Blue Salt Dome, Iberville Parish, Louisiana	1015
Mancos Group, Microfossil Zonation of. By Roberto Sarmiento	1683
Mann, Robert Scott. Memorial by Paul B. Hinyard	364
Maravich, Milan D., and Norman S. Morrisey. Developments in Oklahoma in 1956.	1089
Marine Jurassic of Northern Rocky Mountains and Williston Basin. By James A. Peterson	399
Marine Triassic Stratigraphy in Eastern Great Basin. By David L. Clark	2192
Maucini, Joseph John. Memorial by Henry Rogatz McAlary, J. D., and W. D. Brittain. Developments in Eastern Canada in 1956	1658
McCabe, William S., et al. Nature of Rocky Mountain Stratigraphic Fields	813
McCharen, Wade M., and John L. Hoard. Review of Guidebook, Criner Hills Field Confer-	0.3
ence, Lake Murray Area, Southern Oklahoma, 1957, by Ardmore Geological Society	2755
McIntyre, Donald B., and John S. Shelton. Preliminary Report on Tectonic History of Viz-	
caino Peninsula and San Benito Islands, Baja California, Mexico. Abstract	352
McKee, Edwin D., Chairman. American Commission on Stratigraphic Nomenclature. Discus-	-00-
sion of Note 17—Suppression of Homonymous and Obsolete Stratigraphic Names	1889
McKee, Edwin D. Distinguished Lecture Tour of	583 583
	1704
Measured Sections of Sappington (Kinderhookian) Sandstone in Southwestern Montana. Geo-	
logical Note by R. C. Gutschick and T. G. Perry	1892
Mechanik der Erde, by R. A. Sonder. Review by H. H. Suter	764
Memorial of Adkins, Walter Scott. By Frank E. Lozo	783
of Bybee, Halbert Pleasant. By L. T. Barrow	2394
of DeGolyer, Everette Lee. By Lewis W. MacNaughton	969
of Durham, Charles Albert. By W. E. Dougherty	789
of Earl, Eugene Leonard. By Leslie Bowling	792
of Fable Paul Bartlett, By E. P. Ogier and A. B. Cox, Ir.	363

of Heiland, Carl August. By F. M. Van Tuyl and John C. Hollister	165
of Higgs, Morton Thomas. By Ray A. Hancock	166
of Mann, Robert Scott. By Paul B. Hinyard	364
of Maucini, Joseph John. By Henry Rogatz	1658
of Paine, Paul. By Ernest K. Parks	1660
of Rich, John Lyon. By William F. Jenks	167
of Stainbrook, Merrill Addison. By Leroy T. Patton	974
of Tashman, Djavad Eyoub. By Kemal Lokman	170
of Triphyfol William Honry By Bobot P. Shrod	2775
of Twenhofel, William Henry. By Robert R. Shrock	978
——— of Whealton, Rowland Gardiner. By Vernon L. King Meyerhoff, Howard A., and A. John Haworth. Report of Representatives on Council of Amer-	1002
ican Association for Advancement of Science	1341
Michigan, Developments in 1956. By R. E. Ives and G. D. Ells	1062
, Western, Reflection of Possible Deep Structures by Traverse Group Facies Changes	
in. By Richard L. Jodry	2677
Microfossil Zonation of Mancos Group. By Roberto Sarmiento	1683
Microorganisms and Geochemical Methods of Oil Prospecting. Geological Note by Giorgio G.	
Soli	134
Mid-Continent, North, Developments in 1956. By George Q. Williams	1074
Mid-Continent Region, Tilted Fluid Contacts in. Discussion by M. King Hubbert	957
Mid-Continent Regional Meeting, Tulsa, October 31-November 1	2171
Middle East and Adjacent Countries, Petroleum Developments in 1956. By Henry Hotchkiss Middle Permin Limestone on Pecific Side of Aleska Peningula. Coolegies Note by Penneld	1591
Middle Permian Limestone on Pacific Side of Alaska Peninsula. Geological Note by Bernold M. Hanson	2246
Mid-Tertiary Rock Outcrop on Continental Shelf, Northwest Gulf of Mexico. Geological Note	2376
by Robert R. Lankford and Joseph R. Curray	2113
Milhous, H. C. Oil and Gas Developments in Tennessee in 1956	1046
Military Petroleum. By Ottmar F. Kotick. Abstract	359
Miller, Don J. Tertiary Sequence on Northeast Coast of Gulf of Alaska. Abstract	353
Miller, E. Floyd. Report of Employment Committee	1366
Miller, Halsey W., and Ada Swineford. Paleoecology of Nodulose Zone at Top of Haskell	
Limestone (Upper Pennsylvanian) in Kansas	2012
Miller, R. D. Developments in North Texas in 1956	1135
Mina U., Federico, and Eduardo J. Guzmán. Petroleum Developments in Mexico in 1956	1441
Minor Internal Structures of Some Recent Unconsolidated Sediments. By D. G. Moore and	
P. C. Scruton	2723
W. H. Akers and C. W. Drooger	656
Misch, Peter, and Keith F. Oles. Geological Note on Interpretation of Ouachita Mountains of	050
Oklahoma as Autochthonous Folded Belt: Preliminary Report	1800
Mississippian Bioherms in Northeast Oklahoma. By John W. Harbaugh	2530
Mississippian Joana Limestone of Cordilleran Miogeosyncline and Use of Ca/Mg Ratio in	-30-
Correlation. By George V. Chilingar and Harold J. Bissell	2257
Missouri, Southwestern, Burgner Formation, Pre-Desmoinesian Pennsylvanian Deposit in.	
Geological Note by Walter V. Searight and Ernest J. Palmer Mitchell, James G., and John C. Maher. Geological Note on Suggested Abbreviations for	2127
Mitchell, James G., and John C. Maher. Geological Note on Suggested Abbreviations for	
Lithologic Descriptions	2103
Modern Evaporite Deposition in Peru. By Robert C. Morris and Parke A. Dickey	2467
Modern Methods of Paleoecology. By Raymond C. Moore Montana, Central, Guidebook, Seventh Annual Field Conference, 1956. By Billings Geological	1775
Society. Review by Paul W. Richards	336
Montana, North Dakota, and South Dakota, Developments in 1956. By Steven H. Harris	330
and Herbert D. Hadley	1222
Montana, Snowy Range Formation (Upper Cambrian) of. Geological Note by Christina	
Lochman-Balk	2582
, Southwestern, Measured Sections of Sappington (Kinderhookian) Sandstone in.	
Geological Note by R. C. Gutschick and T. G. Perry	1892
Moody, C. L. Joseph Poyer Deyo Hull, Sidney Powers Memorial Medalist	1647
Review of Oil in Uganda, by N. Harris, J. W. Pallister, and J. M. Brown	567
Moody, Graham B. Economics of Exploration. Abstract	358
	989
Moore D. G. and P. C. Scruton, Minor Internal Structures of Some Pocent Unconsolidated	1356
Moore, D. G., and P. C. Scruton. Minor Internal Structures of Some Recent Unconsolidated Sediments	2722

INDEX OF VOLUME 41 (1957)	2795
Moore, J. W., and H. N. Dunning. Porphyrin Research and Origin of Petroleum Moore, Raymond C. Modern Methods of Paleoecology Moore, Wayne E. Ecology of Recent Foraminifera in Northern Florida Keys Moran, Robert B., Jr. Radiation Logging in Shallow Bore Holes. Abstract. Morris, Robert C., and Parke A. Dickey. Modern Evaporite Deposition in Peru Morrisey, Norman S., and Milan D. Maravich. Developments in Oklahoma in 1956 Morrow, Ernest H., and William H. Wise. Developments in Arkansas and North Louisiana in	2403 1775 727 356 2467 1089
Muchlberger, William R. Geological Note on Pennsylvanian Outcrops Along Brazos Uplift,	1201
Rio Arriba County, New Mexico Murphy, M. A., et al. Devonian Stratigraphy of Sulphur Springs and Pinyon Ranges, Nevada Murray, Harrison F. Stratigraphic Traps in Denver Basin Murray, Haydn H., and Harry E. Wheeler. Base-Level Control Patterns in Cyclothemic Sedi- mentation Murray, Raymond C. Geological Note on Hydrocarbon Fluid Inclusions in Quartz	140 2175 839 1985
	950
Nature of Rocky Mountain Stratigraphic Fields. By Bruce F. Curtis, Robert K. Kirkbride, William S. McCabe, M. Dane Picard, and Frank I. Pritchett, Jr. Nature, Usage, and Definition of Marker-Defined Vertically Segregated Rock Units. Geological Note by James M. Forgotson, Jr.	813
Nelson, C. A., et al. Devonian Stratigraphy of Sulphur Springs and Pinyon Ranges, Nevada . Nettleton, L. L. Review of Geophysical Case Histories, Vol. II, by Society of Exploration	2175
Geophysicists Nevada, Cambrian Rocks of Southern Snake Range. By Harald Drewes and A. R. Palmer. ———, Devonian Stratigraphy of Sulphur Springs and Pinyon Ranges. By Donald Carlisle, M. A. Murphy, C. A. Nelson, and E. L. Winterer	335 104 2175
New Developments on Age and Extent of Ouray Limestone. By R. L. Knight and D. L. Baars New Geological Horizons. By Robert R. Shrock Newell, Norman D. Review of Détermination Pratique des Fossiles, by André Chavan and	2275 1403
André Cailleux — Review of The Underwater Guide to Marine Life, by Carleton Ray and Elgin Ciampi Newfarmer, Leo R. Report of Committee for Publication New Mexico, Age of Galisteo Formation, Santa Fe County. Geological Note by Peter Robin-	2585 334 135 5
son	757 906
William R. Muehlberger ——, Possible Igneous Origin of Turkey Mountain Dome, Mora County. Geological Note by Philip T. Hayes	140
, Reinterpretation of Section of Cretaceous Rocks in Alamosa Creek Valley Area, Catron and Socorro Counties. By C. H. Dane, A. A. Wanek, and J. B. Reeside, Jr.	953
New York, Developments in 1956. By W. Lynn Kreidler North America, Clastic Reservoirs on Precambrian Surface in. By J. C. Sproule North Dakota Geological Society and Saskatchewan Geological Society. Symposium Volume,	848
First International Williston Basin Symposium. Review by J. P. Gries North Dakota, Petrology of Beaver Lodge Madison Limestone Reservoir. By Donald F. Towse	2144
Occurrence of Free Oil in Limestone Concretions in Puerto Rico. Geological Note by Lynn	- 130
Glover Oceanography of Mississippi Delta Sedimentary Environments: A Correction. By P. C.	565
Scruton	566
Offshore Exploratory Problems, Some. By Ira H. Cram	1422
Ogier, E. P., and A. B. Cox, Jr. Memorial of Paul Bartlett Fahle	363
Ohio, Indiana, and Northern Illinois, Trenton Structure in. By Darsie A. Green Discussion by J. Marvin Weller and Darsie A. Green	027
Ohio, Oil and Gas Developments in 1956. By Robert L. Alkire and Bernard A. Floto Oil and Gas Developments in Kentucky in 1956. By Frank H. Walker, Daniel J. Jones, and	1021
Edward O. Ray	1037
in Ohio in 1956. By Robert L. Alkire and Bernard A. Floto in Tennessee in 1956. By H. C. Milhous	1021
in Utah and Nevada in 1956. By Graham S. Campbell and Quey Hebrew	1242
— in West Virginia in 1956. By R. C. Tucker	1032
Oil in Uganda, by N. Harris, J. W. Pallister, and J. M. Brown. Review by C. L. Moody	567

Oil or Alibis. By A. C. Rubel. Abstract. Oklahoma, Developments in 1956. By Norman S. Morrisey and Milan D. Maravich. ———————————————————————————————————	358 1089
Report: Geological Note by Peter Misch and Keith F. Oles	1899
——, Northeast, Mississippian Bioherms in. By John W. Harbaugh	2530
Ardmore Geological Society. Review by John L. Hoard and Wade M. McCharen Oles, Keith F., and Peter Misch. Geological Note on Interpretation of Ouachita Mountains of	2755
Oklahoma as Autochthonous Folded Belt: Preliminary Report	1899
Origin of Gulf Coast Salt-Dome Sulphur Deposits. By Herbert W. Feely and J. Laurence Kulp Ouachita Mountains of Oklahoma as Autochthonous Folded Belt, Interpretation of: Preliminary Report. Geological Note by Peter Misch and Keith F. Oles	1802
Owen, Ed. W. Halbert Pleasant Bybee, Honorary Member	1640
The state of the s	49
Pacific Section Annual Meeting, Los Angeles, November 8-9, 1956. Abstracts	350
Paine, Paul. Memorial by Ernest K. Parks	1660
Paleoecology, Modern Methods of. By Raymond C. Moore	1775
Paleoecology of Nodulose Zone at Top of Haskell Limestone (Upper Pennsylvanian) in Kan-	
sas. By Halsey W. Miller and Ada Swineford	2012
Paleontology and Stratigraphy of Some Marine Pleistocene Deposits in Northwest Los Angeles Basin, California. By Peter U. Rodda	2475
Paleotectonic Mapping. By Edwin D. McKee. Abstract	2475 583
Palmer, A. R., and Harald Drewes. Cambrian Rocks of Southern Snake Range, Nevada	104
Palmer, Ernest J., and Walter V. Searight. Geological Note on Burgner Formation, Pre-Des-	
moinesian Pennsylvanian Deposit in Southwestern Missouri	2127
Paradox Salt Basin, Pennsylvanian Stratigraphy and Productive Zones. By George Herman	06
and Clifford A. Barkell	861
Park, Charles F., Jr. Training of Geologists. Abstract Parker, Robert H., Recipient of President's Award. By Joel W. Hedgpeth	357 1656
Parkinson, Donald. Lower Carboniferous Reefs of Northern England	511
Parks, Ernest K. Memorial of Paul Paine	1660
Partridge, John F., Jr. Potential Stratigraphic Oil Accumulations in Upper Cretaceous Sands,	
Powder River Basin, Wyoming	882
Passega, R. Texture as Characteristic of Clastic Deposition	1952
Patterson, A. M., and A. A. Arneson. Geology of Pembina Field, Alberta	937
Patterson, J. R., and T. P. Storey. Discussion on Lithologic Versus Stratigraphic Concepts .	2139
Patton, Leroy T. Memorial of Merrill Addison Stainbrook	974
graphic Trap	823
Pennsylvania, Developments in 1956. By William S. Lytle	1010
——, Devonian Section at Bowmanstown. By Bradford Willard	2298
——, Lower Ordovician (Beekmantown) Succession in Berks County. By John P. Hobson	2710
Pennsylvanian Outcrops along Brazos Uplift, Rio Arriba County, New Mexico. Geological	
Note by William R. Muehlberger	140
Pennsylvanian Stratigraphy and Productive Zones, Paradox Salt Basin. By George Herman and Clifford A. Barkell	861
Peripheral Faulting at Bayou Blue Salt Dome, Iberville Parish, Louisiana. By William R.	COL
Mais.	1915
Perry, T. G., and R. C. Gutschick. Geological Note on Measured Sections of Sappington (Kin-	
derhookian) Sandstone in Southwestern Montana	1892
Persian Gulf Oil Abundance, Reasons for. By J. Law	51
Persian Gulf, Sediments and Water of. Discussion by S. Elder	332
Peru, Modern Evaporite Deposition in. By Robert C. Morris and Parke A. Dickey	2407
Peterson, James A. Marine Jurassic of Northern Rocky Mountains and Williston Basin. Seventh Annual Meeting, Rocky Mountain Section. Symposium on Stratigraphic	399
Type Oil Accumulations in the Rocky Mountains	799
Petrogenesis of Permian Delaware Mountain Sandstone, Texas and New Mexico. By Joseph P. D. Hull, Jr.	278
Petroleum and Our National Security. By Herbert Hoover, Jr.	1416
Petroleum Developments in Africa in 1956. By Hollis D. Hedberg	1540
—— in Europe in 1956. By Robert E. King	1502
in Far East in 1956. By Godfrey F. Kaufmann	1616
in Mexico in 1956. By Eduardo J. Guzmán and Federico Mina U.	1441

INDEX OF VOLUME 41 (1957)	2797
in Middle East and Adjacent Countries in 1956. By Henry Hotchkiss	1501
in South America and Caribbean Area in 1956. By E. W. Clark	~ ~
Petroleum Geology, Research Needs in. By A.A.P.G. Research Committee	1454
	1854
Petroleum Industry Looks at Geology Curriculum. Geological Note by Guy S. Daniel Petrology of Beaver Lodge Madison Limestone Reservoir, North Dakota. By Donald F.	2368
Towse	2493
Pettijohn, F. J. Sedimentary Rocks. Review by Rhodes W. Fairbridge Picard, M. Dane. Discussion on Uinta or Bridger in Uinta and Piceance Creek Basins, Utah	2754
and Colorado?	331
- Geological Note on Green Shale Facies, Lower Green River Formation, Utah	2373
- Red Wash-Walker Hollow Field, Stratigraphic Trap, Eastern Uinta Basin, Utah	923
Picard, M. Dane, et al. Nature of Rocky Mountain Stratigraphic Fields	813
Pierce, William G. Heart Mountain and South Fork Detachment Thrusts of Wyoming	591
Pittman, William G., et al. Developments in South Texas in 1956	1156
Popenoe, H. L. Developments in West Coast Area in 1956	1272
Porphyrin Research and Origin of Petroleum. By H. N. Dunning and J. W. Moore	
Possibilities of Weber Stratigraphic Traps, Rangely Area, Northwest Colorado. By Floyd H. Hoffman	2403
Possible Igneous Origin of Turkey Mountain Dome, Mora County, New Mexico. Geological	894
Note by Philip T. Hayes	953
Post-Eocene Age for "Markley Gorge" Fill, Sacramento Valley, California. By Alvin A. Almgren and William N. Schlax. Abstract	355
Geological Note by A. A. Almgren and W. N. Schlax	326
Potassium-Argon Dating of Igneous Rocks. Geological Note by J. F. Evernden, G. H. Curtis, and J. Lipson	2120
Potassium-Argon Dating of Sedimentary and Igneous Rocks. By Joseph Lipson, Jack Evernden, and Garniss Curtis. Abstract	353
Potential Stratigraphic Oil Accumulations in Upper Cretaceous Sands, Powder River Basin, Wyoming, By John F. Partridge, Jr.	882
Potter, Paul Edwin. Breccia and Small-Scale Lower Pennsylvanian Overthrusting in Southern Illinois	2605
Powder River Basin, Wyoming, Potential Stratigraphic Oil Accumulations in Upper Creta- ceous Sands. By John F. Partridge, Jr.	882
Powers, Elliott H., and John M. Hills. Report of A.A.P.G. Directors of American Geological Institute	
Pratt, Wallace E. Discussion on Whence Came the Hydrocarbons?	1337
	2584
Geologist's Long-Term Forecast of Petroleum Supply and Demand. Abstract	357
Precambrian, Time Division of. Discussion by H. G. Raggatt Preliminary Report on Tectonic History of Vizcaino Peninsula and San Benito Islands, Baja	333
California, Mexico. By Donald B. McIntyre and John S. Shelton. Abstract	352
Primary Structures in Some Recent Sediments. By Edwin D. McKee	1704
Pritchett, Frank I., Jr., et al. Nature of Rocky Mountain Stratigraphic Fields	813
Proposed Nomenclature of Part of Upper Triassic Strata in Southeastern Utah. By John H.	
Stewart . Puerto Rico, Occurrence of Free Oil in Limestone Concretions in. Geological Note by Lynn	441
Glover	565
Quaternary Era, by John Kaye Charlesworth. Review by E. Willard Berry	2143
Radiation Logging in Shallow Bore Hoies. By Robert B. Moran, Jr. Abstract	356
Raggatt, H. G. Discussion of Time Division of Precambrian	333
Note by Richard Van Horn Ray, Carleton, and Elgin Ciampi. The Underwater Guide to Marine Life. Review by Norman	755
D. Newell	334
Ray, Edward O., et al. Oil and Gas Developments in Kentucky in 1956	1037
Reasons for Persian Gulf Oil Abundance. By J. Law Recent Publications	51
Reconnaissance Observations on Geology of Trinity Islands, Alaska. By C. E. Kirschner. Abstract	354
Reconnaissance of Subsurface Precambrian of Alberta. By R. A. Burwash Red Wash-Walker Hollow Field, Stratigraphic Trap, Eastern Uinta Basin, Utah. By M. Dane	70
Picard	022
Reefs, Lower Carboniferous, of Northern England. By Donald Parkinson	923 511

Reeside, J. B., Jr., et al. Reinterpretation of Section of Cretaceous Rocks in Alamosa Creek	
Valley Area, Catron and Socorro Counties, New Mexico.	18
Reflection of Possible Deep Structures by Traverse Group Facies Changes in Western Michi-	
gan. By Richard L. Jodry	267
Reinterpretation of Section of Cretaceous Rocks in Alamosa Creek Valley Area, Catron and	-0/
Socorro Counties, New Mexico. By C. H. Dane, A. A. Wanek, and J. B. Reeside, Jr.	18
Report 5—Nature, Usage, and Nomenclature of Biostratigraphic Units. By American Com-	.0
mission on Stratigraphic Nomenclature	187
Research Needs in Petroleum Geology. By A.A.P.G. Research Committee	257
Results of 1957 Nationwide Geology Examination Offered by United States Civil Service Com-	185
	210
mission. Geological Note by R. E. Van Alstine Rhodes, F. H. T., and James H. Fisher. Ignacio Quartzite of Southwestern Colorado	210
	250
Rich, John Lyon. Memorial by William F. Jenks	16
Richards, Horace G. Developments in Atlantic Coastal States between New Jersey and South	
Carolina in 1956	122
Richards, Paul W. Review of Guidebook, Seventh Annual Field Conference, Central Montana,	
1956, by Billings Geological Society.	336
Richey, W. E., et al. Developments in East Texas in 1956	1171
Richmond, Gerald M., and John C. Frye. Note 19-Status of Soils in Stratigraphic Nomen-	
clature. American Commission on Stratigraphic Nomenclature	758
Robinson, Peter. Geological Note on Age of Galisteo Formation, Santa Fe County, New	
Mexico	757
Rockfellow, J. P. Jobs and Geologists. Abstract	357
Rockies, Discovery Challenge of the. By A. I. Levorsen	800
Rocky Mountain Association of Geologists Field Trip, August 21-24	1666
Rocky Mountain Association of Geologists. Guidebook to the Geology of the Raton Basin,	
Colorado, 1956. Review by Thomas C. Hiestand	148
Rocky Mountain Stratigraphic Fields, Nature of. By Bruce F. Curtis et al.	813
Rocky Mountains, Northern, and Williston Basin, Marine Jurassic of. By James A. Peterson	399
Rodda, Peter U. Paleontology and Stratigraphy of Some Marine Pleistocene Deposits in	
Northwest Los Angeles Basin, California	2475
Rogatz, Henry. Memorial of Joseph John Maucini	1658
Rubel, A. C. Oil or Alibis. Abstract	358
Russell, R. Dana. Report of Research Committee	1347
Russian Platform, Geochemistry of Thorium and Uranium in Clays and Carbonate Rocks of	
the, by V. I. Baranov, A. B. Ronov, and K. G. Kunashova. Review by George V. Chilin-	
gar	146
Sabins, Floyd F., Jr. Stratigraphic Relations in Chiricahua and Dos Cabezas Mountains,	
Arizona	466
Sachs, K. Norman, and Donald F. Squires. Geological Note on Corals and Larger Foramin-	
ifera at Anse la Butte Reef, Louisiana	746
Salt-Dome Sulphur Deposits, Origin of Gulf Coast. By Herbert W. Feely and J. Laurence	
Kulp	1802
Sanders, John E., and G. O. Cecioni. Discussion on Flysch and Molasse	2136
Santa Cruz Basin Oil Province. By Edward A. Gribi, Jr. Abstract	355
Santa Fe Pool Development, Santa Fe Springs Oil Field, California. By C. L. Doyle. Abstract	352
Sapington (Kinderhookian) Sandstone in Southwestern Montana, Measured Sections of. Geo-	33-
logical Note by R. C. Gutschick and T. G. Perry	1892
Sarmiento, Roberto. Microfossil Zonation of Mancos Group	1683
Saskatchewan Geological Society and North Dakota Geological Society. Symposium Volume,	-003
First International Williston Basin Symposium. Review by J. P. Gries	2144
Sass, L. C. Report of Commissioner on American Commission on Stratigraphic Nomenclature	1345
Schlax, W. N., and A. A. Almgren. Geological Note on Post-Eocene Age of "Markley Gorge"	. 343
Fill, Sacramento Valley, California	326
Schoellhorn, S. W., et al. Velocity Logging and Its Geological and Geophysical Applications.	1667
Schramm, E. Frank, Honorary Member. By Orval L. Brace	1654
Scruton, P. C. Oceanography of Mississippi Delta Sedimentary Environments: a Correction	
Scruton, P. C. Oceanography of Mississippi Detta Sedimentary Environments: a Correction Scruton, P. C., and D. G. Moore. Minor Internal Structures of Some Recent Unconsolidated	566
	2022
Sediments	2723
moinesian Pennsylvanian Deposit in Southwestern Missouri	2125
	2127
Sedimentary Rocks, by F. J. Pettijohn. Review by Rhodes W. Fairbridge	2754

INDEX OF VOLUME 41 (1957)	2799
Sediments and Water of Persian Gulf. Discussion by S. Elder	332
Shearer, Eugene M. Stereo-Structural Contouring . Shelf-Edge, Calcareous Prominences in Northeastern Gulf of Mexico. By John C. Ludwick	1694
and William R. Walton	2054
Shrock, Robert R. Memorial of William Henry Twenhofel New Geological Horizons.	978
Silurian of Great Basin. By Roy Harold Waite. Abstract	354
Simmons, George C. Contact of Burro Canyon Formation with Dakota Sandstone, Slick Rock District, Colorado, and Correlation of Burro Canyon Formation	2519
Sloss, L. L. Distinguished Lecture Tour of	2400
in 1956	1108
Snowy Range Formation (Upper Cambrian) of Montana. Geological Note by Christina Lochman-Balk	2582
Society of Economic Paleontologists and Mineralogists. Financial Statement Society of Exploration Geophysicists. Geophysical Case Histories, Vol. II. Review by L. L.	577
Nettleton Soli, Giorgio G. Geological Note on Microorganisms and Geochemical Methods of Oil Prospect-	335
Some Offshore Exploratory Problems. By Ira H. Cram	134
Sonder, R. A. Mechanik der Erde. Review by H. H. Suter	764
South America and Caribbean Area, Petroleum Developments in 1956. By E. W. Clark	1454
Southeastern States, Developments in 1956. By E. R. Hines, Jr., and G. T. Thomas	1210
Spears, W. H., D. H. Clewell, and G. D. Thomas. Report of Trustees of Research Fund Sproule, J. C. Clastic Reservoirs on Precambrian Surface in North America	1346 848
Squires, Donald F., and K. Norman Sachs. Geological Note on Corals and Larger Foramin-	040
ifera at Anse la Butte Reef, Louisiana	746
Stainbrook, Merrill Addison, Memorial of. By Leroy T. Patton	974
Stereo-Structural Contouring. By Eugene M. Shearer	1694
Stewart, John H. Proposed Nomenclature of Part of Upper Triassic Strata in Southeastern	1094
Utah	441
Stocking, Hobart E. Distinguished Lecture Tour of	174
Storey, T. P., and J. R. Patterson. Discussion on Lithologic Versus Stratigraphic Concepts Stratigraphic Relations in Chiricahua and Dos Cabezas Mountains, Arizona. By Floyd F. Sabins, Jr.	2139 466
Stratigraphic Trap, Carbonate, Cottonwood Creek Field, Washakie County, Wyoming. By John J. Pedry	823
Stratigraphic Trap, Red Wash-Walker Hollow Field, Eastern Uinta Basin, Utah. By M. Dane Picard	923
Stratigraphic Traps in Denver Basin. By Harrison F. Murray	839
Stratigraphic Traps, Weber, Possibilities of, Rangely Area, Northwest Colorado. By Floyd H. Hoffman	804
Stratigraphic Type Oil Accumulations in the Rocky Mountains, Symposium on Seventh An-	094
nual Meeting, Rocky Mountain Section. By James A. Peterson	799
Stratigraphy of Comanchean Cretaceous Trinity Group. By James Morris Forgotson, Jr. Stringfield, V. T., and P. E. LaMoreaux. Geological Note on Age of Citronelle Formation in	2328
Gulf Coastal Plain.	742
Structural Control of Landforms, Bryce Canyon National Park, Utah. Geological Note by	14-
Dorsey Hager	2118
Structural Elements of Northeastern Appalachians. By Herbert P. Woodward	1429
Structure of Wheeler Ridge Oil Field. By Archer H. Warne. Abstract	352
Subsurface Study of Morrow and Atoka Series in Part of Arkansas Valley of Western Arkan-	
sas. By William Wayne Ballard	263
Suggested Abbreviations for Lithologic Descriptions. Geological Note by James G. Mitchell and John C. Maher	2103
Sulphur Deposits, Origin of Gulf Coast Salt-Dome. By Herbert W. Feely and J. Laurence	0
Kulp	1802
Survey of College Students Majoring in Geology. By A. I. Levorsen	968
Suter, H. H. Review of Mechanik der Erde, by R. A. Sonder	764
Sutton, Robert G. Geological Note on Lithofacies Map of Upper Devonian in Eastern United States	750
Swineford, Ada, and Halsey W. Miller. Paleoecology of Nodulose Zone at Top of Haskell	2012

Symposium on Stratigraphic Type Oil Accumulations in the Rocky Mountains. Seventh An-	
nual Meeting, Rocky Mountain Section. By James A. Peterson	799
Symposium Volume, First International Williston Basin Symposium, by North Dakota Geo-	
logical Society and Saskatchewan Geological Society. Review by J. P. Gries	2144
Tabular Masses of Disordered Breccias in Southern California. By Richard H. Jahns and	
Lauren A. Wright. Abstract	355
Tashman, Djavad Eyoub. Memorial by Kemal Lokman	170
Taylor, Ralph E. Report of Committee on Preservation of Samples and Cores	1362
Tectonics of Eastern Flank and Foothills of Front Range, Colorado. By C. Maynard Boos and	
Margaret Fuller Boos	2603
Teichert, Curt. Discussion of Report 5—Nature, Usage, and Nomenclature of Biostratigraphic Units. American Commission on Stratigraphic Nomenclature	
Tennessee, Oil and Gas Developments in 1956. By H. C. Milhous	2574
Terry, Lyon F. Report of Finance Committee	1355
Tertiary Sequence on Northeast Coast of Gulf of Alaska. By Don J. Miller. Abstract	353
Texas, Basal Claiborne of, Record of Appalachian Tectonism during Eocene. By Thomas W.	333
Todd and Robert L. Folk	2545
——, Dust-Storm Sediments of Lubbock Area. By Kerby E. Laprade	709
, East, Developments in 1956. By D. W. Love, R. A. Kirkland, and W. E. Richey	1171
, North, Developments in 1956. By R. D. Miller	1135
, South, Developments in 1956. By William G. Pittman, et al.	1156
——, Upper Gulf Coast, Developments in 1956. By K. L. Cockerham, Jr. ——, West-Central, Developments in 1956. By Fred R. Haeberle.	1181
West, Genesis of "Haymond Boulder Beds," Marathon Basin. Geological Note by	1144
W. E. Hall	1633
Texas and New Mexico, Petrogenesis of Permian Delaware Mountain Sandstone. By Joseph	55
P. D. Hull, Jr.	278
Texas and Oklahoma Panhandles, Developments in 1956. By Garland E. Wheeler and Guy W.	
Smith	1108
Texas, West, and Southeastern New Mexico, Developments in 1956. By Tom Culbertson et al.	1117
Texture as Characteristic of Clastic Deposition. By R. Passega	1952
Thermoluminescence, Factors in Age Determination of Carbonate Sediments by. By Edward 1. Zeller, John L. Wray, and Farrington Daniels	121
Thomas, G. D., et al. Report of Trustees of Research Fund	1346
Thomas, G. T., and E. R. Hines, Jr. Developments in Southeastern States in 1956	1210
Threet, Richard L. Geological Note on Automatic Dip-Component Computer for Use with	
Brunton Compass	2752
Tilted Fluid Contacts in Mid-Continent Region Discussion by M. King Hubbert	957
Time Division of Precambrian. Discussion by H. G. Raggatt	333
Todd, Thomas W., and Robert L. Folk. Basal Claiborne of Texas, Record of Appalachian	
Telep Hann N. and Alfred H. Bell. Beneat of Benefities Committee	2545
Toler, Henry N., and Alfred H. Bell. Report of Resolutions Committee Tomkins, J. Q. Bisti Oil Field, San Juan County, New Mexico	906
Towse, Donald F. Petrology of Beaver Lodge Madison Limestone Reservoir, North Dakota	2403
Training of Geologists. By Charles F. Park, Jr. Abstract	357
Trenton Structure in Ohio, Indiana, and Northern Illinois. By Darsie A. Green	627
— Discussion by J. Marvin Weller and Darsie A. Green	2132
Tribbey, Roy Jackson, Jr. Memorial of G. R. Lucie-Smith	2775
Tucker, R. C. Oil and Gas Developments in West Virginia in 1956.	1032
Tuddenham, S. F., and John A. Downing. Developments in Western Canada in 1956	1290
Turkey Mountain Dome, Mora County, New Mexico, Possible Igneous Origin of Geological	0.53
Note by Philip T. Hayes	953 978
Twentiolet, William Henry, Memorial of. By Robert R. Shrock	970
Uganda, Oil in. By N. Harris, J. W. Pallister, and J. M. Brown. Review by C. L. Moody	567
Uinta Basin, Eastern, Red Wash-Walker Hollow Field, Stratigraphic Trap, Utah. By M. Dane	
Picard	923
Uinta Basin, Guidebook to the Geology of the, 1957, by Intermountain Association of Petrole-	
um Geologists. Review by Martin Van Couvering	2379
Uinta or Bridger in Uinta and Piceance Creek Basins, Utah and Colorado? Discussion by M. Dane Picard	221
Underwater Guide to Marine Life, by Carleton Ray and Elgin Ciampi. Review by Norman D.	331
Newell	334

2801

United States, Eastern, Lithofacies Map of Upper Devonian in. Geological Note by Robert G. Upper Devonian Swisshelm Formation of Southeastern Arizona. By R. C. Epis, C. M. Gilbert, and R. L. Langenheim 2243 Utah, Eastern, Late Cretaceous Cyclic Deposits, Book Cliffs. By Robert G. Young 1760 Utah, Green Shale Facies, Lower Green River Formation. Geological Note by M. Dane 2373 , Red Wash-Walker Hollow Field, Stratigraphic Trap, Eastern Uinta Basin. By M. Dane Picard 923 , Southeastern, Proposed Nomenclature of Part of Upper Triassic Strata. By John H. 441 , Structural Control of Landforms, Bryce Canyon National Park. Geological Note by 2118 Utah and Colorado, Uinta or Bridger in Uinta and Piceance Creek Basins? Discussion by M. Dane Picard 331 Utah and Nevada, Oil and Gas Developments in 1956. By Graham S. Campbell and Quey 1242 Vanadium, Nickel, and Porphyrins in Thermal Geochemistry of Petroleum. By Gordon W. Hodgson and Bruce L. Baker 2413 Van Alstine, R. E. Geological Note on Results of 1957 Nationwide Geology Examination Offered by United States Civil Service Van Couvering, Martin. Review of Guidebook to the Geology of the Uinta Basin, by Intermountain Association of Petroleum Geologists 2379 Van Horn, Richard. Geological Note on Ralston Creek Formation, New Name for Ralston Formation of LeRoy (1946) Van Tuyl, F. M., and John C. Hollister. Memorial of Carl August Heiland Vassoevich, N. B. (Editor). Companion of the Petroleum Geologist. Review by Eugene A. Alexandrov 151 Vedder, J. G. Geology of San Nicolas Island, Ventura County, California. Abstract . Velocity Logging and Its Geological and Geophysical Applications. By H. R. Breck, S. W. 354 Schoellhorn, and R. B. Baum 1667 Venezuela, Geologic History of Santa Ana Structure, Anaco Structural Trend, Anzoategui. By Luis M. Banks and Edgar S. Driver 308 , Northeastern, Lower Cretaceous Barranquin Formation of. By Erimar von der Osten. Virginia, Southwestern, Deep Drilling through Cumberland Overthrust Block in. By David M. Young 2567 Western, Implications of Gentle Ordovician Folding in. By W. D. Lowry 643 von der Osten, Erimar. Lower Cretaceous Barranquín Formation of Northeastern Venezuela 679 Waite, Roy Harold. Silurian of Great Basin. Abstract 354 Waldschmidt, W. A. Minutes, Forty-Second Annual Business Meeting, St. Louis, April 4, 1318 Report (Minutes) of Business Committee . 1333 Report of Secretary-Treasurer 1323 Walker, Frank H., Daniel J. Jones, and Edward O. Ray. Oil and Gas Developments in Eentucky in 1956 1037 Walton, William R., and John C. Ludwick. Shelf-Edge, Calcareous Prominences in North-eastern Gulf of Mexico 2054 Wanek, A. A., et al. Reinterpretation of Section of Cretaceous Rocks in Alamosa Creek Valley Area, Catron and Socorro Counties, New Mexico 181 Warne, Archer H. Structure of Wheeler Ridge Oil Field. Abstract 352 Waters, K. M., and R. D. Beu. Developments in Louisiana Gulf Coast in 1956 1100 Weller, J. Marvin, and Darsie A. Green. Discussion on Trenton Structure in Ohio, Indiana, and Northern Illinois . 2132 West Coast Area, Developments in 1956. By H. L. Popenoe 1272 West Texas Geological Society Field Trip, October 25-26. 2300 West Virginia, Oil and Gas Developments in 1956. By R. C. Tucker 1032 Whealton, Rowland Gardiner. Memorial by Vernon L. King Wheeler, Garland E., and Guy W. Smith. Developments in Texas and Oklahoma Panhandics in 1956 1108 Wheeler, Harry E., and Haydn H. Murray. Base-Level Control Patterns in Cyclothemic Sedimentation 1985 Whence Came the Hydrocarbons? By Theodore A. Link

- Discussion by Wallace E. Pratt	2584
Willard, Bradford. Devonian Section at Bowmanstown, Pennsylvania	2208
Williams, E. G., et al. Environmental Studies of Carboniferous Sediments. Part I: Geochemical	
Criteria for Differentiating Marine from Fresh-Water Shales	2427
Willia 1s, George O. Developments in North Mid-Continent in 1056	1074
Will ston Basin Area, Jurassic Stratigraphy of. By David R. Francis	367
Williston Basin Symposium Volume, First International, by North Dakota Geological Society	
and Saskatchewan Geological Society. Review by J. P. Gries	2144
Winterer, E. L., et al. Devonian Stratigraphy of Sulphur Springs and Pinyon Ranges, Nevada	2175
Wise, William H., and Ernest H. Morrow. Developments in Arkansas and North Louisiana in	
1956	1201
Woodward, Albert F. Factors Relating to Fault Seals in Some California Oil Fields. Abstract	361
Woodward, Herbert P. Chronology of Appalachian Folding	2312
Structural Elements of Northeastern Appalachians	1420
Woodward, Thomas C. Geology of Deadman Butte Area, Natrona County, Wyoming	212
Wray, John L., et al. Factors in Age Determination of Carbonate Sediments by Thermo-	
	121
Wyoming Geological Association Field Conference, September 12-14 Wyoming Geological Association. Guidebook, Eleventh Annual Field Conference, Jackson	1385
Hole, 1956. Review by Ruth Bachrach.	769
Wyoming, Geology of Deadman Butte Area, Natrona County. By Thomas C. Woodward	212
Heart Mountain and South Fork Detachment Thrusts of. By William G. Pierce	591
, Potential Stratigraphic Oil Accumulations in Upper Cretaceous Sands, Powder River	
Basin, By John F. Partridge, Ir.	882
, Washakie County, Cottonwood Creek Field, Carbonate Stratigraphic Trap. By John	
J. Pedry	823
Wyoming and Idaho, Developments in 1956. By James A. Barlow, Jr.	1231
	3.
Young, David M. Deep Drilling through Cumberland Overthrust Block in Southwestern	
Virginia	2567
Young, Robert G. Late Cretaceous Cyclic Deposits, Book Cliffs, Eastern Utah	1760
Zeller, Edward J., John L. Wray, and Farrington Daniels. Factors in Age Determination of	
Carbonate Sediments by Thermoluminescence.	
Carbonate Seminents by Thermorannieseeffee	121